

CLAIMS SUMMARY

1. (Currently Amended) A method of adjusting a dynamic model having initial parameters of a simulator ~~having initial parameters comprising:~~
inputting data from a train into the simulator;
operating the simulator with the data and the initial parameters to produce model data;
and
adjusting automatically by software the initial parameters of the dynamic model simulator until ~~data of the model data simulator~~ matches the data from the train.

2. (Original) A method according to Claim 1, wherein the parameters include one or more of grade resistance, curve resistance, rolling resistance, tractive effort of the train's locomotives, dynamic brake effort of the locomotives, pneumatic brake system, and train weight.

3. (Original) A method according to Claim 1, including analyzing the inputted data on the simulator after adjusting of the parameters.

4. (Original) A method according to Claim 3, wherein the analysis includes identifying anomalies in the inputted data and reporting the anomalies.

5. (Currently Amended) A method ~~according to Claim 1, wherein adjusting the parameters includes~~ of adjusting a dynamic model having initial parameters of a simulator comprising:
inputting data from a train into the simulator;
operating the simulator with the data and the initial parameters to produce model data;
identifying parameters to adjust by comparing the simulator model data and the train data during a change of velocity; and
adjusting automatically by software the identified initial parameters of the dynamic model until model data matches the data from the train.

6. (Previously Presented) A method ~~according to Claim 1, wherein the train data is from an event recorder on the train and adjusting the parameters includes~~ of adjusting a dynamic model having initial parameters of a simulator comprising:
inputting data from a train into the simulator;

operating the simulator with the data and the initial parameters to produce model data;
identifying parameters to adjust by comparing the ~~simulator-model~~ data and the event
~~recorder~~train data during one or more trip features including: curves, grades, braking and
throttle changes; and
adjusting automatically by software the identified initial parameters of the dynamic
model until model data matches the train data.

7. (Original) A method according to Claim 1, wherein the train includes plural event recorders storing the train data and including inputting data from each of the event recorders into the simulator and operating the simulator and adjusting the parameters using the data from all the event recorders.

8. (Original) A method according to Claim 1, including providing a simulator on the train.

9. (Original) A method according to Claim 8, including storing the adjusted parameters with the data of the train on an event recorder on the train.

10. (Previously Presented) In a train having a processor including a train dynamic model and initial train parameters, the method for fine tuning the model includes:
inputting real time measured train data from the train into the processor;
running the train dynamic model with the initial parameters to produce modeled train data;
compare the modeled train data and the measured train data; and
adjusting automatically by software the initial parameters of the model until modeled train data matches the measured train data.

11. (Previously Presented) A method according to Claim 10, wherein the parameters include one or more of grade resistance, curve resistance, rolling resistance, tractive effort of the train's locomotives, dynamic brake effort of the locomotives, pneumatic brake system, and train weight.

12. (Previously Presented) A method according to Claim 10, wherein adjusting the parameters includes identifying parameters to adjust by comparing the modeled data and the measured data during a change of velocity.

13. (Previously Presented) A method according to Claim 10, wherein the measured train data is from an event recorder on the train.

14. (Previously Presented) A method according to Claim 13, wherein the adjusting of the parameters includes comparing the modeled data and the event recorder data during one or more trip features including: curves, grades, braking and throttle changes.

15. (Previously Presented) A method according to Claim 13, including storing the adjusted parameters with the data of the train on the event recorder.